

REMARKS

Claims 1-17 and 19-36 are pending in this application. Claims 2, 9, 10, 17, 21 and 29 have been amended. Claim 18 has been canceled. Due to a typographical error original claims 31 and 32 were both designated 31 in the Application as filed. The Examiner is thanked for renumbering the claims to address this typographical error. In accordance with the Examiner's comments, new claims 33-36 have been numbered consecutively beginning with the number 33.

The Examiner is thanked for allowing claims 9-16 and for indicating claims 2, 4, 5, 6, 21 and 22 were directed to allowable subject matter. Applicants have not restated claims 2, 4, 5, 6, 21 and 22 in independent form because Applicants believe the claims from which they depend are allowable for the reasons set forth below. Claims 2, 9, 10 and 21 have been amended and remain allowable at least because the prior art does not teach, suggest or motivate comparing an error count to a threshold value. Claims 10-16 and 22 are allowable at least by virtue of their dependencies.

The Examiner rejected claims 17-20, 23, and 26-32 under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 7,111,224 issued to Trimberger. Applicants respectfully traverse the Examiner's rejection.

Trimberger completes configuration and loads the memory cells and then checks for errors after configuration is complete. See, e.g., Trimberger, Col. 2. lines 25-32; Col. 5, lines 14-38. If an error is detected in the loaded memory cell, Trimberger uses error correction bits to correct the error. The Examiner points to the discussion in Trimberger at column 8, lines 40 et seq. This portion of Trimberger describes correction after configuration is complete and the memory cells are loaded. In contrast, the subject matter of claims 17-20, 23 and 26-32 is directed to sequentially loading configuration frames and correcting errors during the sequential loading process and without reloading previously loaded frames.

Turning to the language of the claims, independent claim 17 as amended recites, "loading a first one of a plurality of configuration data frames into a frame register; checking the loaded data frame for errors; if an error is detected, repeating the above steps for the configuration data frame in which an error was detected; if an error is not detected, transferring

steps for a second configuration data frame in the plurality of configuration data frames.” Trimberger completes the configuration process and then checks for errors. Thus, Trimberger does not teach suggest or motivate loading one of a plurality of configuration data frames, checking the loaded frame for errors, reloading the configuration data frame if an error is detected, transferring data to a memory cell if no error is detected, and subsequently repeating the process for a second configuration data frame, as recited. Claims 19, 20, 23 and 26-28 depend from claim 17 and are allowable at least by virtue of their dependencies. Claim 18 has been canceled.

Independent claim 29 as amended recites, “means for correcting detected errors in a loaded configuration data frame without reloading other configuration data frames and before loading subsequent configuration data frames.” As discussed above, Trimberger does not check for errors until configuration is complete and all the configuration data frames are loaded. Trimberger does not anticipate claim 29. Claims 30 and 31 depend from claim 29 and are allowable at least by virtue of their dependencies.

Independent claim 32 recites “an error detection circuit to detect errors in a loaded configuration data frame, wherein the PLD is configured to reload a single configuration data frame into the configuration frame register upon detecting an error and to transfer data from the configuration frame register to at least one of the plurality of memory cells in the absence of an error.” As discussed above, Trimberger transfers data to the plurality of memory cells before checking for errors and thus is not configured to “reload a single configuration data frame into the configuration frame register upon detecting an error and to transfer data from the configuration frame register to at least one of the plurality of memory cells in the absence of an error,” as recited. Thus, claim 32 is not anticipated by Trimberger. New claims 33-36 depend from claim 32 and are allowable at least by virtue of their dependencies.

The Examiner rejected claims 1, 3, 7 and 8 under 35 U.S.C. 103(a) as rendered obvious by Trimberger in view of U.S. Patent No. 6,560,743 issued to Plants.

Independent claim 1 recites, “clearing the frame register of a configuration memory of the PLD; loading a new configuration data frame into the frame register and into an error detection circuit; checking said data frame for errors and transferring data in the frame

register to memory cells of the PLD if no error is detected; reloading the frame register of the PLD and incrementing an error counter value if errors are encountered; and repeating above steps until all desired configuration data frames are loaded.” As discussed above, Trimberger does not check the data for errors until after configuration is complete. Plants similarly completes the configuration process before checking for errors. Thus, Trimberger, alone or in combination with Plants, does not teach, suggest or motivate “loading a new configuration data frame into the frame register and into an error detection circuit; checking said data frame for errors and transferring data in the frame register to memory cells of the PLD if no error is detected; reloading the frame register of the PLD and incrementing an error counter value if errors are encountered; and repeating above steps until all desired configuration data frames are loaded,” as recited. Claims 3, 7 and 8, as well as claims 2 and 4-6, depend from claim 1 and are allowable at least by virtue of their dependencies.

The Examiner rejected claims 7 and 8 as obvious over Trimberger in view of Plants and U.S. Patent No. 5,870,586 issued to Baxter. Claims 7 and 8 depend from claim 1, and Trimberger, alone or in combination with Plants and Baxter, does not teach, suggest, or motivate “loading a new configuration data frame into the frame register and into an error detection circuit; checking said data frame for errors and transferring data in the frame register to memory cells of the PLD if no error is detected; reloading the frame register of the PLD and incrementing an error counter value if errors are encountered; and repeating above steps until all desired configuration data frames are loaded,” as recited. Thus, claims 7 and 8 are allowable at least by virtue of their dependencies.

The Examiner rejected claims 24 and 25 under 35 U.S.C. 103(a) as obvious over Trimberger in view of Baxter. Claims 24 and 25 depend from claim 17. Trimberger, alone or in combination with Baxter, does not teach, suggest or motivate the sequential loading method of claim 17 as discussed above. Accordingly, claims 24 and 25 are allowable at least by virtue of their dependencies.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

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All of the claims remaining in the application are now clearly allowable.  
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
SEED Intellectual Property Law Group PLLC

  
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Timothy L. Boller  
Registration No. 47,435

TLB:jms

701 Fifth Avenue, Suite 5400  
Seattle, Washington 98104  
Phone: (206) 622-4900  
Fax: (206) 682-6031

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